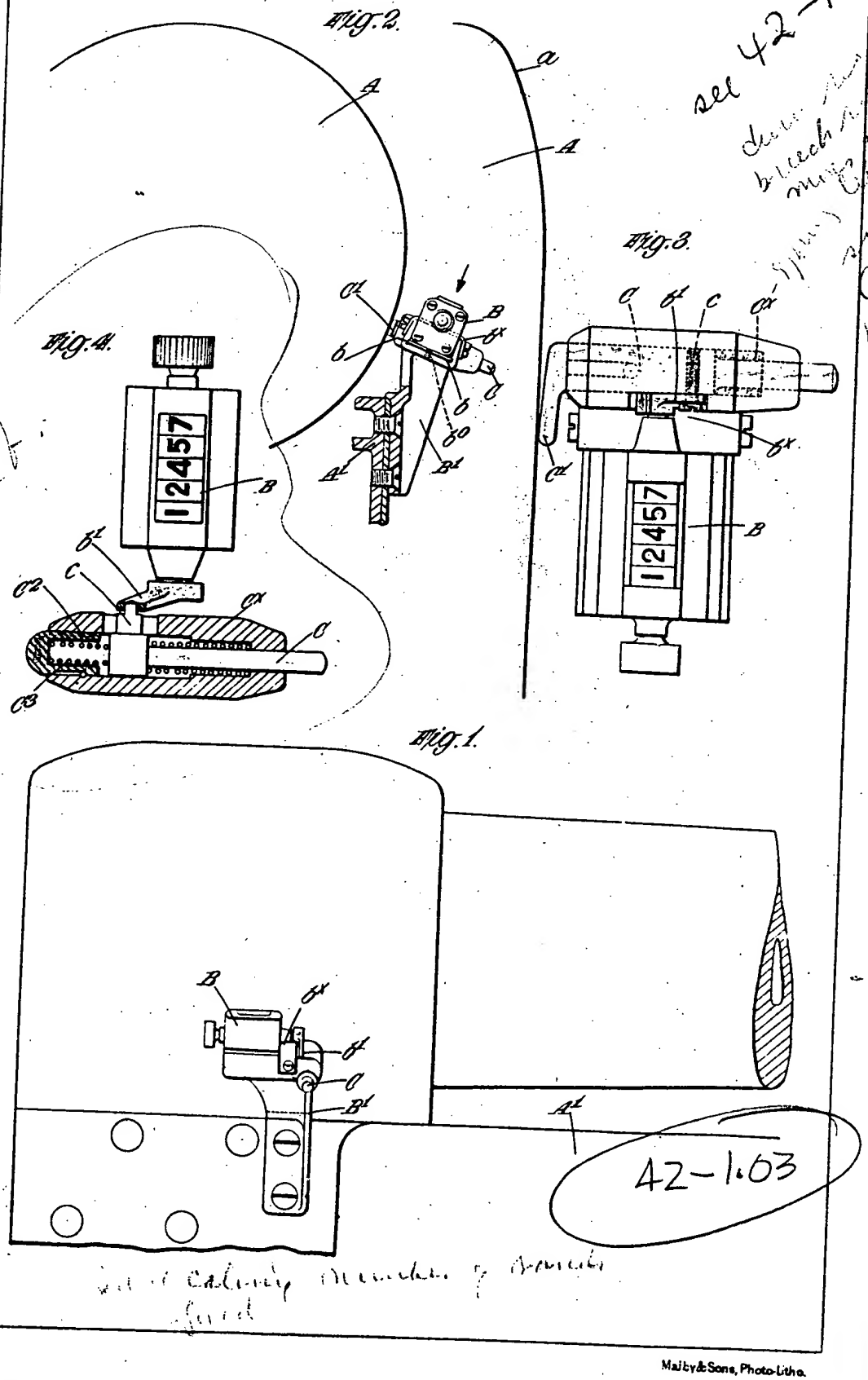
GB-1920-01

137,645 DAWSON & another's COMPLETE SPECIFICATION. (1 SHEET)



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Malby & Sons, Photo-Litho.

137,645

PATENT SPECIFICATION

Application Date, Feb. 17, 1919. No. 3902/19.
Complete Left, July 31, 1919.
Complete Accepted, Jan. 22, 1920.

PROVISIONAL SPECIFICATION.

Improvements relating to Ordnance.

We, Sir ARTHUR TREVOR DAWSON, Knight, a Lieutenant, retired, in His Majesty's Royal Navy, and Superintendent of Ordnance Works, and Sir GEORGE THOMAS BUCKHAM, Knight, both of Vickers Limited, Vickers House, Broadway, Westminster, in the County of London, do hereby declare the nature of this invention to be as ollows:—

This invention relates to ordnance and consists in providing means for automatically recording the number of rounds fired. For the purpose of the invention there is mounted upon the gun cradle a counting device of any suitable construction so arranged as to be actuated by the recoil or run-out movement of the gun barrel or a part moving therewith or deriving its movement therefrom. The said counting device may be of the well known "Veeder" type and be carried by a bracket attached to the gun cradle, the foot or base of the counting device having flanges which fit in undercut grooves formed in the bracket and being retained in position by suitable means such as a clamping or tightening screw. The operating arm or lever of the counting device may be formed with a slot in which engages a pin projecting laterally from a spring controlled plunger slidably mounted in the bracket and this plunger may have a toe-piece which, when the gun occupies its forward position, rests against the side of the breech ring of the gun. During the recoil of the gun the shoulder at the forward end of the breech ring moves past the toe-piece and the spring then displaces the plunger longitudinally into a position in which, on the run-out movement of the gun, the toe-piece engages with the usual curved surface (or a specially formed curved or inclined surface) on the forward part of the breech ring to displace the plunger by a cam-like action into its original position. A spring operated buffer may be provided to compensate for any irregularity of travel of the plunger. By this means more movement is given than is actually required to revolve the counter drums. The counting device is thus actuated to indicate that the gun has fired a round and this action occurs each time the gun recoils and returns to its forward or run-out position so that by inspection of the counting device it can at any time be ascertained how many rounds the gun has fired. The counting device is intended to be moved during the recoil of the gun, but it could equally well be moved during the run-out.

Dated this 17th day of February, 1919.

HASELTINE, LAKE & Co.,
28, Southampton Buildings, London, England, and
55, Liberty Street, New York City, U.S.A.,
Agents for the Applicants.

[*Price 6d.*]

COMPLETE SPECIFICATION.

Improvements relating to Ordnance.

We, Sir ARTHUR TREVOR DAWSON, Knight, a Lieutenant, retired, in His Majesty's Royal Navy, and Superintendent of Ordnance Works, and Sir GEORGE THOMAS BUCKHAM, Knight, both of Vickers Limited, Vickers House, Broadway, Westminster, in the County of London, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to ordnance and has for its object to provide improved means for automatically recording the number of rounds fired.

According to the present invention the recording means comprise a spring controlled plunger which is connected to the operating portion of a counting device on the gun cradle and which is arranged transversely to the axle of the gun so as to be actuated by the recoil or the run-out movement of the gun barrel or a part moving therewith or deriving its movement therefrom.

In order that the said invention may be clearly understood and readily carried into effect, the same will now be more fully described with reference to the accompanying drawings, in which:—

Figures 1 and 2 are respectively a side elevation and a rear elevation shewing a form of the counting device and the means for actuating it.

Figure 3 is a plan drawn to an enlarged scale and viewed in the direction of the arrow in Figure 2, and

Figure 4 is a sectional plan shewing a modified form of the means for operating the counting device.

A is the breech ring of the gun and A^1 is part of the gun cradle. B represents the aforesaid counting device which is shewn as being of the well known "Veeder" type and is carried by a bracket B^1 attached to the gun cradle the foot or base of the counting device having flanges b, b which fit in undercut grooves formed in the bracket and being retained in position by suitable means such as the small grub screw b^0 shown in Fig. 2. A plate or strip b^x of metal is connected to the bracket B^1 for the purpose of excluding dust and water from the said grooves.

The operating arm or lever b^1 of the counting device is formed with a slot in which engages a pin c projecting laterally from a plunger C controlled by a spring C^x and slidably mounted in the bracket B^1 and this plunger in Figures 1 to 3 has a toe-piece C^1 which, when the gun occupies its forward position, rests as shewn against the side of the breech ring A. During the recoil of the gun the shoulder at the forward end of the breech ring moves past the toe-piece C^1 and the spring C^x then displaces the plunger C axially into a position in which, on the run-out movement of the gun, the toe-piece engages with the usual curved surface a (or a specially formed curved or inclined surface) on the forward part of the breech ring to displace the plunger by a cam-like action into its original position. The counting device is thus actuated to indicate that the gun has fired a round and this action occurs each time the gun recoils and returns to its forward or run-out position so that by inspection of the counting device it can at any time be ascertained how many rounds the gun has fired. The unit drum of the counting device is intended to be actuated during each recoil of the gun, but it could equally well be actuated during each run-out movement of the gun. In the construction shewn by Figure 4 the plunger C, instead of being operated directly by the surface a on the breech ring A as in Figures 1 to 3, is operated from a sliding piece C^2 between which and the plunger C is interposed a spring C^3 which constitutes a buffer serving

to compensate for any irregularity of travel given by the surface *a*. In this case more movement is given to the sliding piece C^2 than is actually required to revolve the drums of the counting device.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. Ordnance provided with means for automatically recording the number of rounds fired, wherein these means comprise a spring controlled plunger which is connected to the operating portion of a counting device on the gun cradle and which is arranged transversely to the axis of the gun so as to be actuated by the recoil or the run-out movement of the gun barrel or a part moving therewith or deriving its movement therefrom.

2. Ordnance provided with means for automatically recording the number of rounds fired, wherein these means comprise a spring controlled plunger which is connected to the operating portion of a counting device on the gun cradle and which is arranged transversely to the axis of the gun with a spring interposed between the said plunger and a sliding piece adapted to be actuated by the recoil or the run-out movement of the gun barrel or a part moving therewith or deriving its movement therefrom, substantially as and for the purpose specified.

3. Means for recording the number of rounds fired by a gun, said means being constructed, arranged and adapted to operate substantially as hereinbefore described with reference to the accompanying drawings for the purpose specified.

Dated this 31st day of July, 1919.

HASELTINE, LAKE & Co.,
28, Southampton Buildings, London, England, and
55, Liberty Street, New York City, U.S.A.,
Agents for the Applicants.

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